Contents

1. Why do we need generic lab tests?

Generic lab tests simplify the process of entering lab test results into the NEDSS system manually.

Sometimes laboratories won't be able to enter test results into the system automatically. When this happens, labs will send paper lab test reports to the Health Department. The "manual lab entry" process is described below.

Manual lab entry – using Loinc	**Manual lab entry -- using generic lab tests**
• The data entry person interprets all of the information on the paper lab report. • She then searches through Loinc to find an equivalent Loinc test. Entering lab data into the system means: *"The lab test on this paper report is equivalent to this particular Loinc test."*	• The data entry person interprets the paper lab test report in a general manner. • She then searches for an appropriate generic lab test -- i.e., a test category in the generic list. Entering lab data into the system means: *"The lab test on this paper report is a subtype of this generic test."*

Example

Loinc test:	`30021-0`	`BORRELIA BURGDORFERI 23KD AB.IGM:ACNC:PT:SNV:ORD:IB`
Generic test:	`g1071`	`Borrelia burgdorferi antibody`

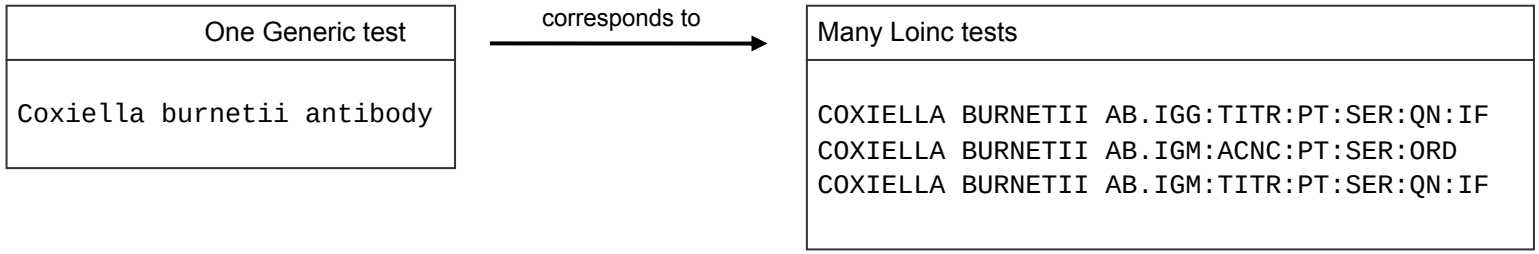
Loinc is precise but not user-friendly

- There are 150 Loinc tests for Borrelia burgdorferi antibodies. Finding the right one would be difficult and time consuming.
- Loinc does not contain every lab test that every lab is doing. Some lab tests of public health interest cannot be coded in Loinc.

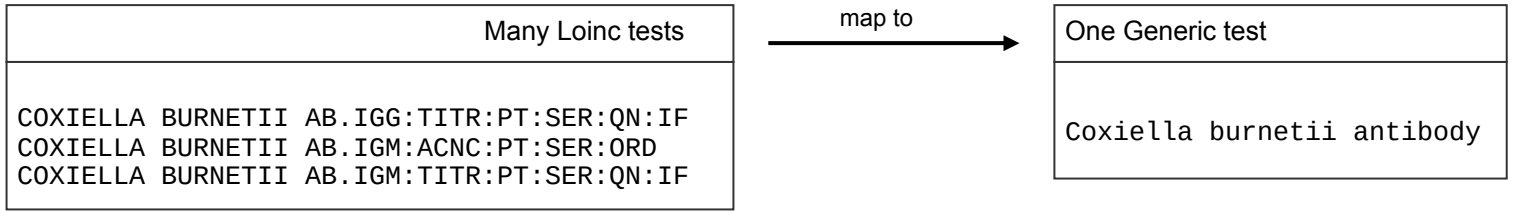
Summary: Generic lab tests are types or categories of tests that make it easier and faster to enter lab data manually.

2. Mapping generic lab tests

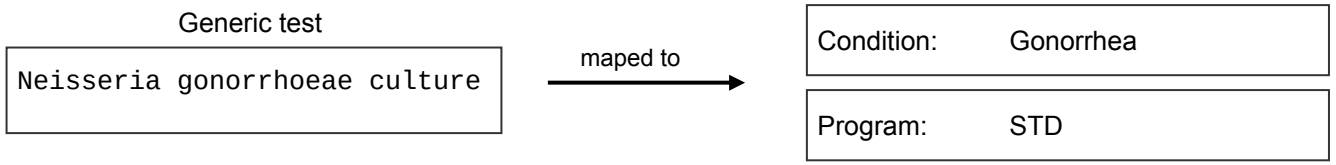
1. Generic lab tests <u>cannot</u> be mapped to specific Loinc codes because one Generic test corresponds to many Loinc tests:



2. Loinc codes <u>can</u> be mapped to generic lab tests.

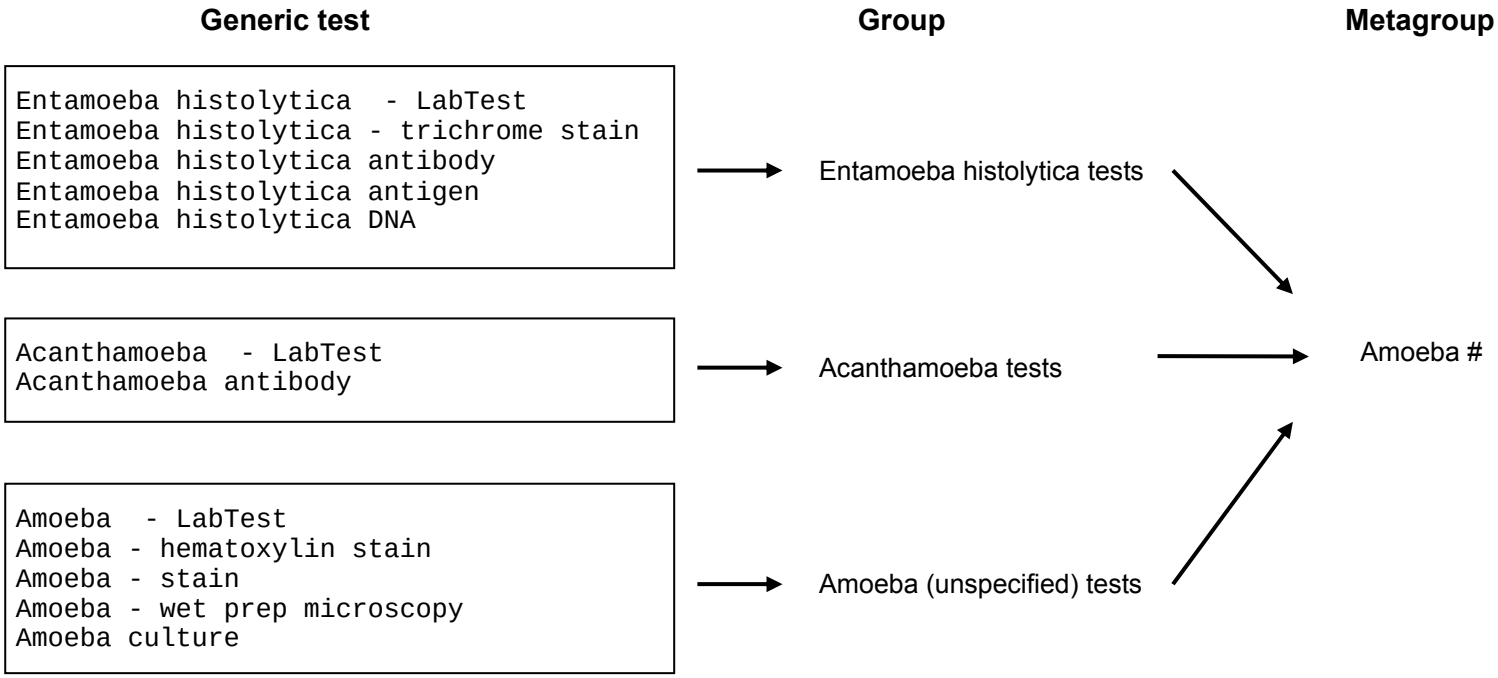


3. Generic tests <u>can</u> be mapped to conditions and program areas.



3. Organizing and indexing generic lab tests

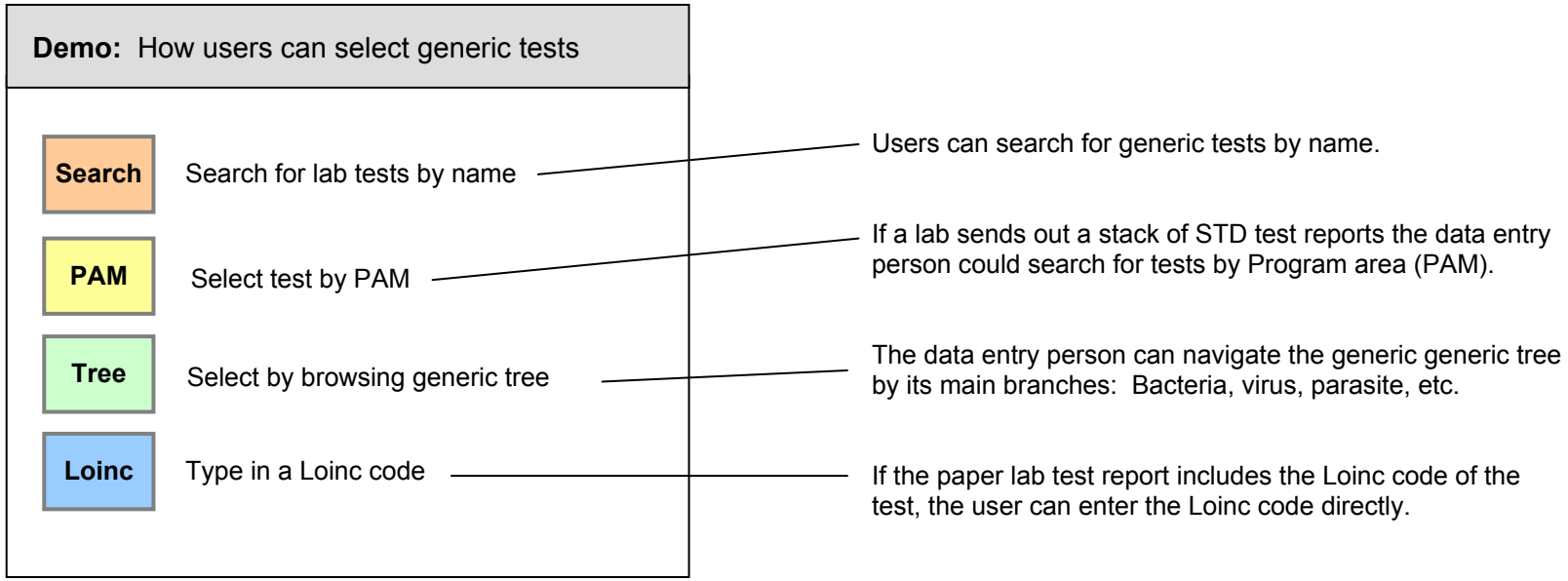
There are 924 generic lab tests in the PHIN Condition Mapping Tables. An easy means of navigating these tests is needed so an inexperienced user can find the right tests quickly. In order to provide this navigational functionality, the generic lab tests are organized and indexed by "Groups" and "Metagroups".

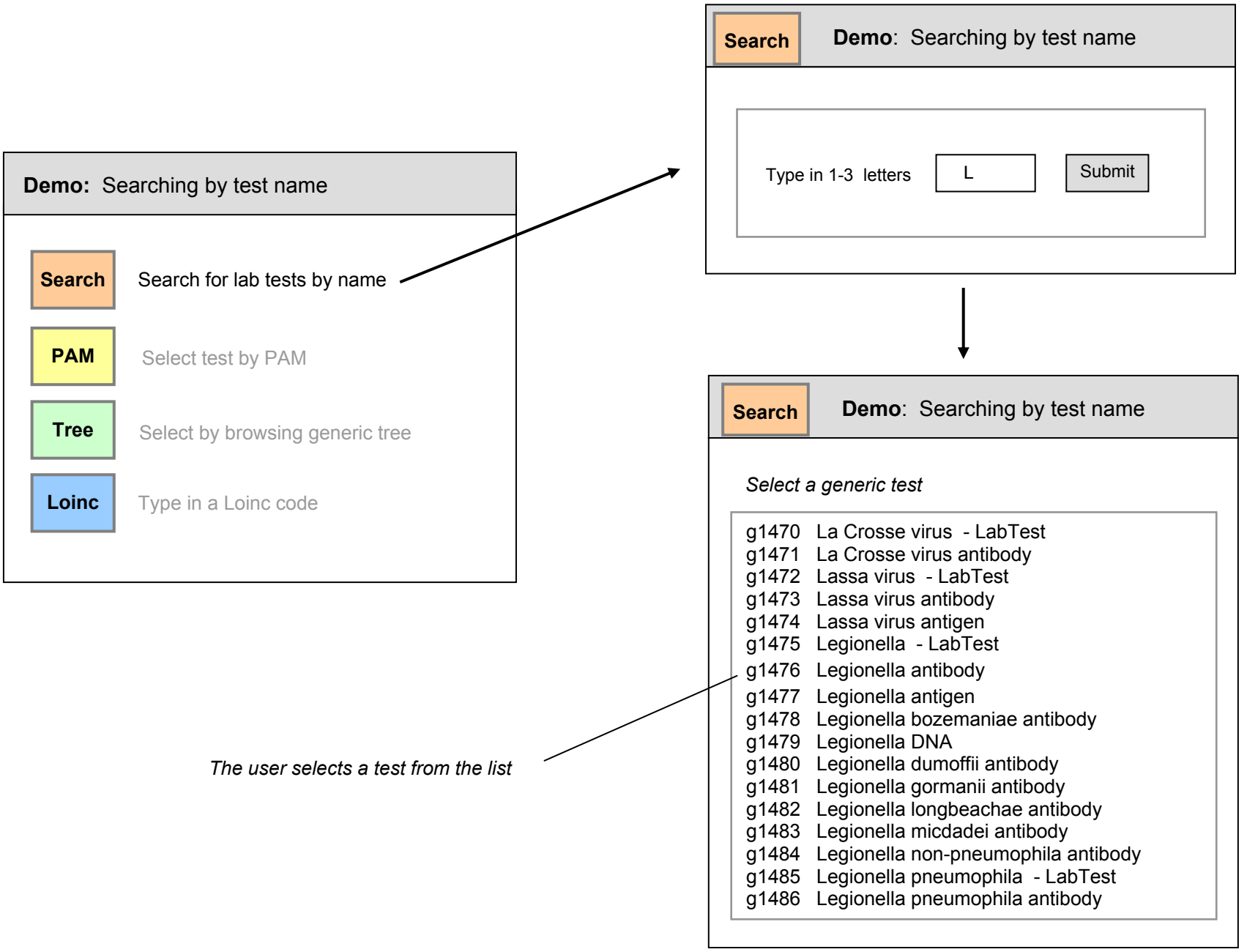


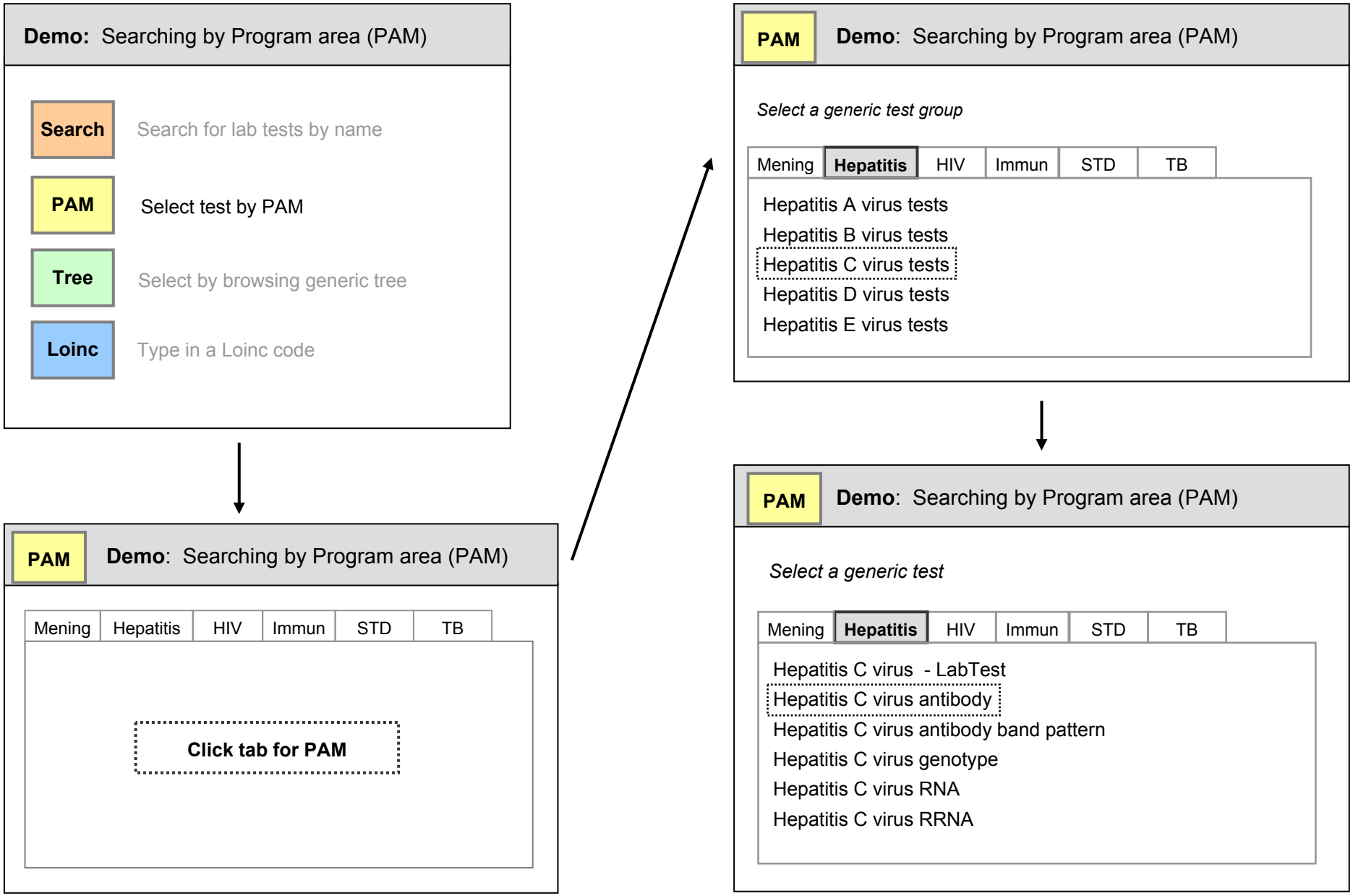
Each group of generic tests contains one non-specific Generic Test. Examples above: *"Amoeba – LabTest", "Acanthamoeba – LabTest"*, etc. These non-specific generic tests can be used in two situations:

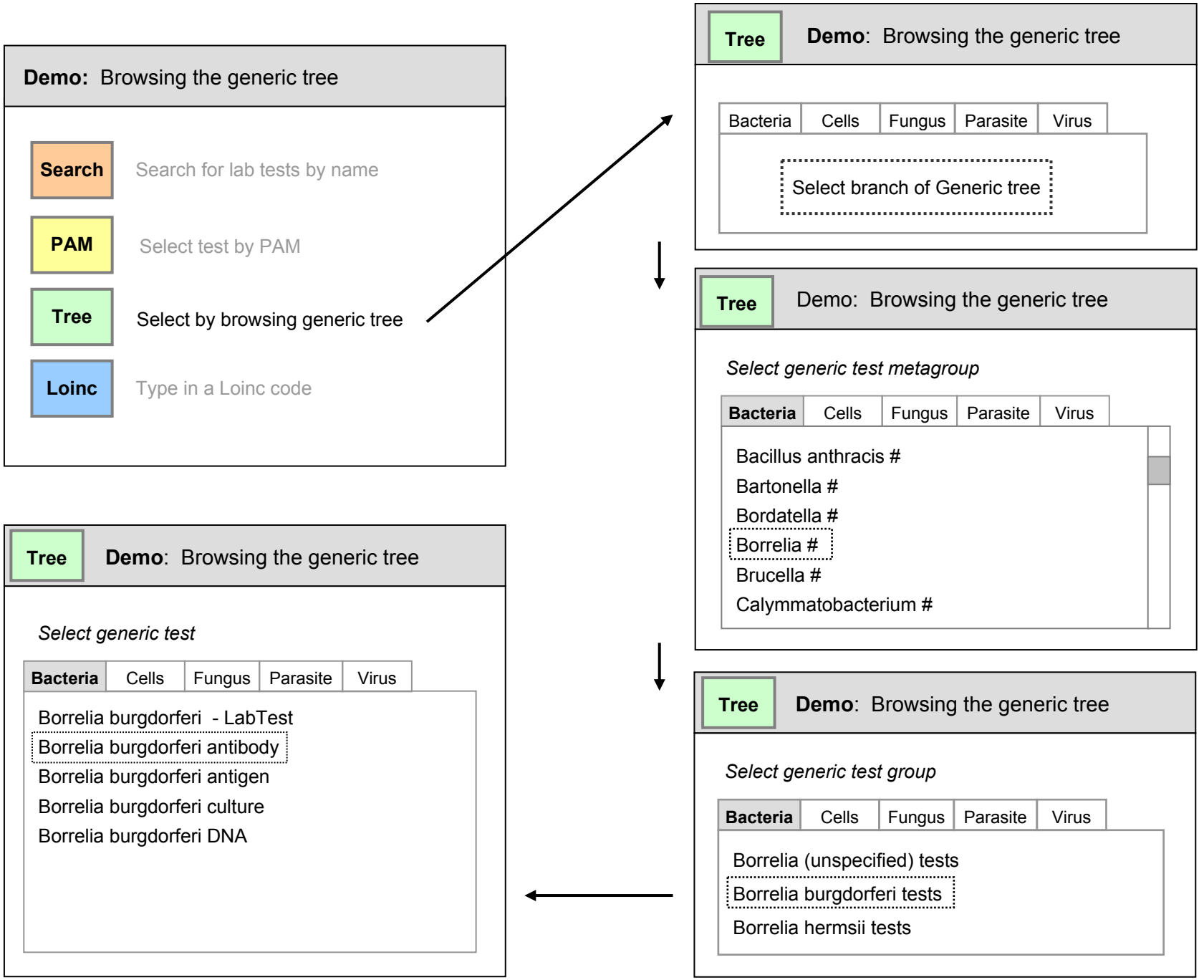
- The data entry person can't find a more specific generic test
- The paper lab test report is non-specific – e.g., "`Tuberculosis test: Positive`"

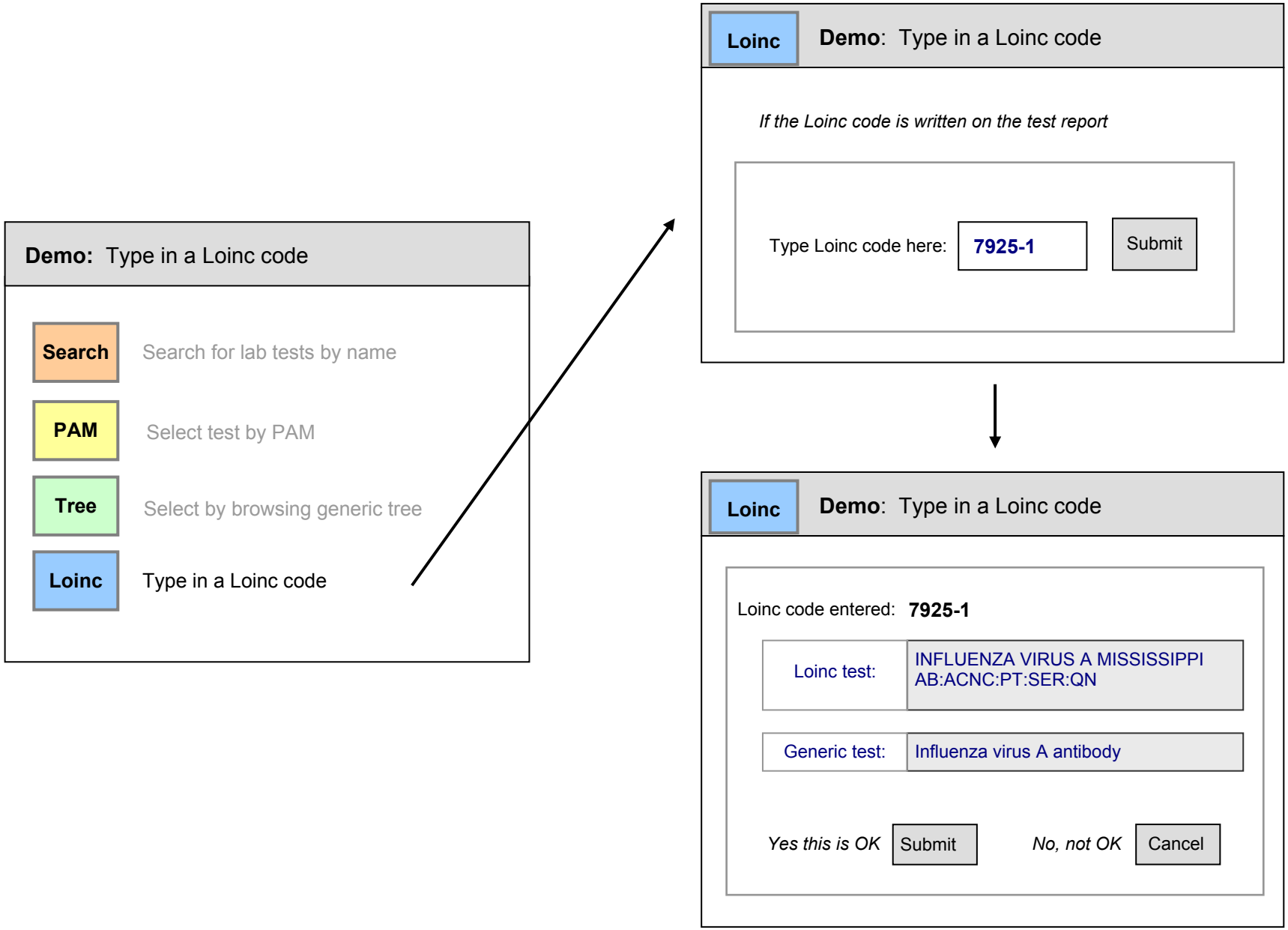
4. Interface demo: How users can select generic tests




Demo: Searching by test name
Search
Search for lab tests by name
PAM
Select test by PAM
Tree
Select by browsing generic tree
Loinc
Type in a Loinc code
Search
Demo: Searching by test name
Type in 1-3 letters
L
Submit
Search
Demo: Searching by test name
Select a generic test
g1470 La Crosse virus - LabTest
g1471 La Crosse virus antibody
g1472 Lassa virus - LabTest
g1473 Lassa virus antibody
g1474 Lassa virus antigen
g1475 Legionella - LabTest
g1476 Legionella antibody
g1477 Legionella antigen
g1478 Legionella bozemaniae antibody
g1479 Legionella DNA
g1480 Legionella dumoffii antibody
g1481 Legionella gormanii antibody
g1482 Legionella longbeachae antibody
g1483 Legionella micdadei antibody
g1484 Legionella non-pneumophila antibody
g1485 Legionella pneumophila - LabTest
g1486 Legionella pneumophila antibody
The user selects a test from the list


Demo: Searching by Program area (PAM)
Search
Search for lab tests by name
PAM
Select test by PAM
Tree
Select by browsing generic tree
Loinc
Type in a Loinc code
PAM
Demo: Searching by Program area (PAM)
Mening
Hepatitis
HIV
Immun
STD
TB
Click tab for PAM
PAM
Demo: Searching by Program area (PAM)
Select a generic test group
Mening
Hepatitis
HIV
Immun
STD
TB
Hepatitis A virus tests
Hepatitis B virus tests
Hepatitis C virus tests
Hepatitis D virus tests
Hepatitis E virus tests
PAM
Demo: Searching by Program area (PAM)
Select a generic test
Mening
Hepatitis
HIV
Immun
STD
TB
Hepatitis C virus - LabTest
Hepatitis C virus antibody
Hepatitis C virus antibody band pattern
Hepatitis C virus genotype
Hepatitis C virus RNA
Hepatitis C virus RRNA


Demo: Browsing the generic tree
Search
Search for lab tests by name
PAM
Select test by PAM
Tree
Select by browsing generic tree
Loinc
Type in a Loinc code
Tree
Demo: Browsing the generic tree
Bacteria
Cells
Fungus
Parasite
Virus
Select branch of Generic tree
Tree
Demo: Browsing the generic tree
Select generic test metagroup
Bacteria
Cells
Fungus
Parasite
Virus
Bacillus anthracis #
Bartonella #
Bordatella #
Borrelia #
Brucella #
Calymmatobacterium #
Tree
Demo: Browsing the generic tree
Select generic test group
Bacteria
Cells
Fungus
Parasite
Virus
Borrelia (unspecified) tests
Borrelia burgdorferi tests
Borrelia hermsii tests
Tree
Demo: Browsing the generic tree
Select generic test
Bacteria
Cells
Fungus
Parasite
Virus
Borrelia burgdorferi - LabTest
Borrelia burgdorferi antibody
Borrelia burgdorferi antigen
Borrelia burgdorferi culture
Borrelia burgdorferi DNA


Demo: Type in a Loinc code
Search
Search for lab tests by name
PAM
Select test by PAM
Tree
Select by browsing generic tree
Loinc
Type in a Loinc code
Loinc
Demo: Type in a Loinc code
If the Loinc code is written on the test report
Type Loinc code here:
7925-1
Submit
Loinc
Demo: Type in a Loinc code
Loinc code entered: 7925-1
Loinc test:
INFLUENZA VIRUS A MISSISSIPPI AB:ACNC:PT:SER:QN
Generic test:
Influenza virus A antibody
Yes this is OK
Submit
No, not OK
Cancel

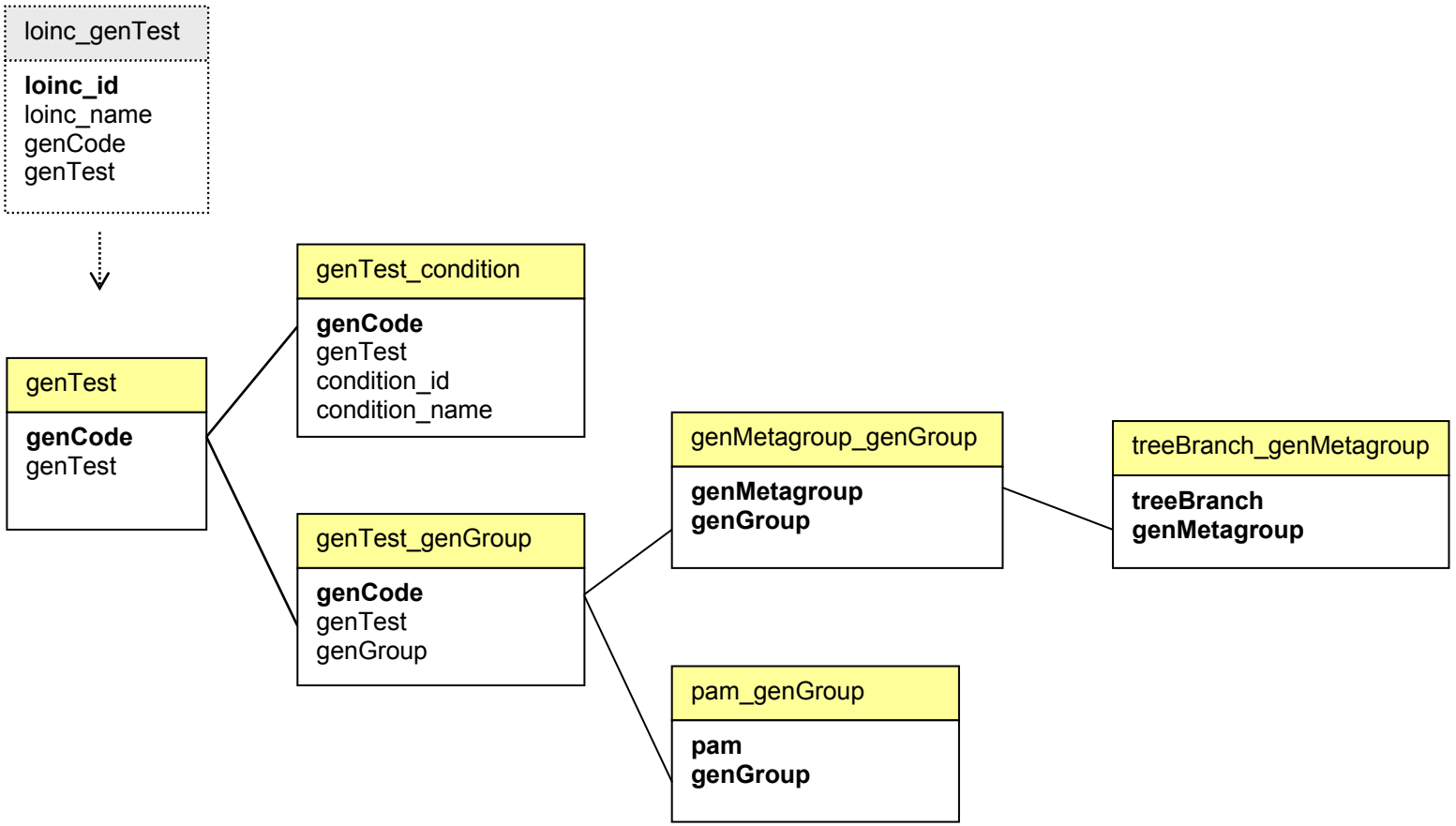
5. Feedback

Please email or call me with your questions or comments:

Jeremiah Sable jsable@csc.com

404-417-3149

Appendix: Database tables and queries



This is an example of how the generic test tables can be related. You might want to do it differently:

- The tables could be broken up to fully normalize the relationships.
- The tables could be denormalized further, for ease of management.

These queries demonstrate how to use the generic test tables in an application. The specific queries shown here were used for the Interface Demo (Part 4 of this document).

Search method (see Demo, above)	Query used in the Demo
1. Search for generic test by name	`SELECT * FROM genTest` `Where genTest Like "L*"`

2. Search for generic test by PAM	`SELECT genGroup FROM pam_genGroup`
	`Where pam Like "hep*"`
	
	`SELECT genTest FROM genTest_genGroup`
	`Where genGroup Like "Hepatitis C virus tests"`

3. Select by browsing generic tree	`SELECT genMetagroup FROM treeBranch_genMetagroup`
	`Where treebranch Like "bacteria"`
	
	`SELECT genGroup FROM genMetagroup_genGroup`
	`Where genMetagroup Like "Borrelia #"`
	
	`SELECT genTest FROM genTest_genGroup`
	`Where genGroup Like "Borrelia burgdorferi tests"`

4. Type in a Loinc code	`SELECT loinc_name, genCode, genTest FROM loinc_genTest` `Where loinc_id Like "7925-1"`